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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,967	09/23/2003	Takayuki Takahashi	03-592	1472

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BACHMAN & LAPOINTE, P.C.  
900 CHAPEL STREET  
SUITE 1201  
NEW HAVEN, CT 06510

EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT PAPER NUMBER

1725

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,967

Applicant(s)

TAKAHASHI ET AL.

Examiner

Lynne Edmondson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11,13-15 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15 and 20-28 is/are allowed.
- 6) ☐ Claim(s) 1,2,4-11,13 and 14 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The indicated allowability of claim 12 is withdrawn in view of the newly discovered reference(s) to bonding a metal member, which has been worked so as to have a predetermined shape before assembly. Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 9, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Curicuta et al. (USPN 5586714).

Curicuta teaches a method of directly bonding a Cu-Ni metal to at least one side of a ceramic substrate by heating the metal in a nitrogen atmosphere to form and electronic device (col 3 lines 19-60, col 5 lines 5-14 and col 6 line 56 – col 7 line 2).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US 2003/0062399 A1).

Kimura teaches a method of directly bonding a Cu-Ni-Mn metal such as manganin or constantan which melts between 960 C and 990C to at least one side of a ceramic substrate (paragraphs 2 and 14-18) by heating the metal in a nitrogen atmosphere to a temperature of no more than 990 C (paragraphs 23-26 and 32) to form a resistor (paragraph 2). Although the metal has a plate shape, there is no disclosure of working the metal to form the shape prior to assembly.

It would have been obvious to one of ordinary skill in the art at the time of the invention to shape the plate prior to assembly as is conventional in the art.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenhut et al. (US 2005/0098609 A1).

Greenhut teaches a method of directly bonding a Cu-Ni metal to at least one side of a ceramic substrate by heating the metal (paragraph 7) in a vacuum or inert environment (paragraph 13). Although the metal has a plate shape, there is no disclosure of working the metal to form the shape prior to assembly.

It would have been obvious to one of ordinary skill in the art at the time of the invention to shape the plate prior to assembly as is conventional in the art.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1, 2, 4-11, 13-15 and 20-28 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

8. Claims 15 and 20-28 are allowed:

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Babcock et al. (USPN 3766634), Mizonuya et al. (USPN 4693409), Tsukaguchi et al. (USPN 6613450 B2) and Nozaki et al. (JPN 02-175674-A).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson,  
Primary Examiner  
Art Unit 1725

*LB*  
*2/2/10*

LRE